Endoscopic ultrasound-guided fine needle biopsy of pancreatic metastasis from Merkel cell carcinoma

Merkel cell carcinoma (MCC) is a rare and aggressive cutaneous neuroendocrine carcinoma. The incidence rate is approximately 0.3–0.6/100,000 per year [1, 2]. At initial presentation most patients with MCC (70%–80%) have localized disease, and only a few (1%–4%) have distant metastases [3]. Moreover, MCC rarely metastasizes to the pancreas, therefore this represents a challenge for the differential diagnosis of pancreatic masses [4].

A 73-year-old man reported epigastric pain and vomiting. The patient’s history included a diagnosis of an MCC, which had been removed from his left elbow 7 months before the onset of his upper gastrointestinal symptoms. His laboratory findings were unremarkable. An abdominal computed tomography (CT) scan showed a lesion infiltrating the common bile duct (CBD) and dilatation upstream of the lesion. This lesion, with irregular margins, appeared to be infiltrating the portal confluence.

Endoscopic ultrasound (EUS) confirmed a 3-cm hypoechoic, heterogeneous, irregular mass with evidence of invasion of the portal confluence (Fig. 2). Three needle passes were performed with a 22-gauge ProCore needle using a “fanning” technique followed by slow withdrawal of the stylet (Video 2). Cytohistological evaluation of the samples revealed small blue, round-to-oval cells with stippled chromatin (Fig. 3a). The cells were positive for CK20, synaptophysin, and chromogranin, and had a Ki-67 index of >60%, suggestive of pancreatic metastasis from MCC (Fig. 3b).
In this specific case, the EUS features of the pancreatic metastasis from MMC mimicked a classic adenocarcinoma. Moreover, this neoplasm showed few specific cyto-logic features as the same small blue, round-to-oval cells can also be seen in lymphoma or small cell carcinoma [5]. Given that CK20 is a pathognomonic marker of MCC [4,5], obtaining an adequate tissue sample for immunohistochemical evaluation with the use of an EUS-guided histology needle was key for making the differential diagnosis. To the best of our knowledge, there are no other reports in the international literature of a pancreatic metastasis from MCC being diagnosed by EUS-FNB.

**Fig. 3** Cytohistological analysis of an endoscopic ultrasound (EUS)-guided fine needle biopsy specimen from the pancreatic lesion showed: a uniform, small blue cells with round-to-oval, hyperchromatic nuclei and scant cytoplasm when stained with hematoxylin and eosin (H&E); b strong positivity for CK20 on immunohistochemistry, with characteristic paranuclear, dot-like accentuation, consistent with a diagnosis of Merkel cell carcinoma.

**Competing interests:** None

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